

STRUCTURE 39

This structure is a reinforced concrete spillway located at the point where L-40 crosses the Hillsboro Canal, about 13 miles west of Boca Raton. Control is effected by a manually or remotely controlled Tainter gate.

PURPOSE

The primary purpose of this structure is to make releases from Water Conservation Area 1 to supply water needs along the Hillsboro Canal during the dry season. It also can be used to discharge excess water from Conservation Area 1 when capacity is available in the Hillsboro Canal and when the water is not needed in Conservation Area 2 or 3.

OPERATION

Gate operation of this structure is effected manually on-site or remotely under either flood or normal conditions.

Flood Condition

The gate of this structure may be, but very rarely is, opened whenever:

1. Excess storage is present in Conservation Area 1; that is, when the stage in Conservation Area 1 is above the regulation schedule.
2. The excess water in Conservation Area 1 is not needed in Conservation Area 2 or 3.
3. The tailwater elevation will not exceed 9.0 feet.

Normal Conditions

Releases are made, as necessary, to supply downstream water requirements, so as to maintain S-39 downstream stage at elev. 7 - 7.5 feet.

DISCHARGE CHARACTERISTICS

	Normal Conditions	Flood Conditions
Discharge Rate	<u>800</u> cfs <u>*</u> % of SPF	<u>800</u> cfs <u>*</u>
Headwater Elevation	<u>11.0</u> feet	Any stage above <u>11.0</u> feet

Tailwater Elevation	<u>9.0</u> feet	<u>9.0</u> feet
Type Discharge	uncontrolled <u>submerged</u>	controlled <u>submerged</u>

* Designed for Dry Season Conditions. Discharge of Conservation Area 1 for Standard Project Flood designed to be passed through S-10 alone.

DESCRIPTION OF STRUCTURE

Type: Reinforced concrete spillway

Gate

Net Length of Weir 15.0 feet

Height of gate opening 8.0 feet

Crest elevation 2.5 feet

Service Bridge Elevation 24.0 feet

Gates

Number 1

Type Top sealing Taintor gate

Size 16.0 feet wide by 9.2 feet high

Control Manual on-site or remote computer control

Lifting Mechanism - The gate is equipped with an electric motor operated gear and cable drum which is cable connected to the bottom of the gate.

Date of Acceptance into Service: September 15, 1952

EMERGENCY POWER: Diesel backup generator from B-67 Boca West telemetry tower.

ACCESS: Structure located at the end of SR 810, about 6 miles west of U.S. 441.

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level Remote digital headwater and tailwater recorders

Gate Position Recorder Remote digital recorder

Rain Gauge: Remote, digital recorder

DEWATERING FACILITIES